

KUZNETSOV, F.A.; SMIRNOV, N.I.

Study of extraction in an experimental atomizer. Zhur.prikl.  
khim. 34 no.9:1954-1958 S '61. (MIRA 14:9)

1. Kafedra tekhnologii osnovnogo organicheskogo sinteza i  
sinteticheskikh kauchukov Leningradskogo tekhnologicheskogo  
instituta imeni Lensovetu.

(Extraction (Chemistry))

KUZNETSOV, F.A.; SMIRNOV, N.I.

Quantitative laws of extraction processes. Zhur.prikl.khim. 34  
no.9:2311-2313 S '61. (MIRA 14:9)  
(Extraction (Chemistry))

SYU 60-TSZIN, SMIRNOV, N.I.

Fluidized bed in the system liquid - liquid. Zhur.prikl.khim.  
34 no.9:2113-2116 S '61. (MIRA 14:9)

1. Kafedra tekhnologii osnovnogo organicheskogo sinteza i  
sinteticheskikh kauchukov Leningradskogo tekhnologicheskogo  
instituta imeni Lensoveta.  
(Systems (Chemistry)) (Fluidization)

KUSHCHENKO, V.S.; SMIRNOV, N.I.

Calculation of the number of theoretical plates in separating mixtures by rectification, absorption, and extraction. Izv. vys. ucheb. zav.; neft' i gaz 5 no.7:65-72 '62.  
(MIRA 16:7)

1. Leningradskiy tekhnologicheskii institut imeni Lensoвета.  
(Plate towers)

LEBEDEVA, N.N.; YERKOVA, L.N.; SMIRNOV, N.I.; FERMOR, N.A.

Study of the effect of some factors on the process of concentrating  
synthetic latexes. Zhur.prikl.khim. 35 no.1:201-204 Ja '62.

(MIRA 15:1)

(Rubber, Synthetic)

39075  
S/080/62/035/006/013/013  
D204/D307

15.8000 (2209 g/m)

AUTHORS: Kogan, E. V. and Smirnov, N. I.

TITLE: Polymerization of octamethylcyclotetrasiloxane in the presence of sulphuric acid under the influence of ultrasound

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 6, 1962,  
1382-1385

TEXT: The above was studied in view of the current interest in the influence of ultrasonics in promoting polymerization. Construction of the vibrator and the associated circuit of the ultrasonic generator (18 - 45 kc/s), with a maximum power output of 1.5 kw, is described and illustrated. It was found that, at 20°C, increasing the power of ultrasound to 2.9 - 10 w/cm<sup>2</sup> increased the rate of polymerization, the degree of conversion reaching 90% after 1 - 2.5 hours, in the presence of a 1% addition of 98.6% H<sub>2</sub>SO<sub>4</sub>. The corresponding frequency of ultrasound was 22 kc/s. Mechanical stirring

Card 1/2

L 15604-63 EPF(c)/EWP(j)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/WW  
 8/0190/63/005/008/1183/1189  
 67  
 66

ACCESSION NR: AP3004704

AUTHORS: Kogan, E. V.; Ivanova, A. G.; Reykhsfel'd, V. O.; Smirnov, N. I.;  
 Gruber, V. N.

TITLE: Polymerization of octamethylcyclotetrasiloxane in the presence of acid  
 catalysts

SOURCE: Vyssokomolekulyarnyye soyedineniya, v. 5, no. 8, 1963, 1183-1189

TOPIC TAGS: siloxane, polymerization, catalyst, sulfuric acid, potassium dichro-  
 mate, potassium permanganate

ABSTRACT: The kinetics of octamethylcyclotetrasiloxane (OMCTS) polymerization by  
 sulfuric acid in the presence of promoters was investigated by the conventional  
 viscosimetric method and by an ultrasonic technique described in an earlier paper  
 by E. V. Kogan, N. I. Smirnov, and A. P. Mozhayev (Zh. prikl. khimii, 34, 541,  
 1961). Into a 50-ml flask were placed 25 ml of OMCTS to which were added (under  
 stirring) various amounts of sulfuric acid, potassium permanganate, or potassium  
 dichromate solutions. It was found that the stirring frequency had no effect  
 on the process. In the absence of oxidizers, 2% by weight of concentrated sulfuric

Card 1/2

L 15604-63

ACCESSION NR: AP3004704

acid resulted within a 6-8 hour interval in a maximum polymerization level (up to 90%) of the original OMCTS. Additional amounts of sulfuric acid increased only the conversion rate. Experiments showed that the dilution of the acid had a detrimental effect on the rate and yield of polymerization, as did the replacement of the sulfuric acid by oleum. A similar detrimental effect was observed when 0.03-1.6 gram-equivalent of potassium permanganate or 0.1-1.0 gram-equivalent of potassium dichromate was added per gram-equivalent of sulfuric acid, the degree of polymerization inhibition increasing with the amount of oxidant added. It was found that at 60C (in the presence of 1% concentrated sulfuric acid without oxidants) a polymerization level of 80% was reached within 4 hours, while at 20C it took 9 hours to achieve a 30% polymerization. Orig. art. has: 1 formula and 9 charts.

ASSOCIATION: Leningradskiy technologicheskii institut im. Lensovet (Leningrad Technological Institute)

SUBMITTED: 19Jan62

DATE ACQ: 28Aug63

ENCL: 00

SUB CODE: CH

NO REF SOV: 010

OTHER: 004

Card 2/2



GRIGOR'YEV, V.B.; SMIRNOV, N.I.

Separation of mixtures of organic liquids in a thermo-  
gravitation column. Zhur. prikl. khim. 36 no.9:2030-2033  
D '63. (MIRA 17:1)

1. Leningradskiy tekhnologicheskii institut imeni Lensoвета.

GRIGOR'YEV, V.B.; SMIRNOV, N.I.

Separation of mixtures of organic liquids in a thermogravimational column. Zhur. prikl. khim. 36 no.10:2228-2231  
0 '63. (MIRA 17:1)

1. Leningradskiy tekhnologicheskii institut imeni Lensoвета.

GRIGOR'YEV, V.B.; SMIRNOV, N.I.

Separation of mixtures of organic liquids in a thermogravitation column. Zhur. prikl. khim. 36 no.11:2456-2460 N '63.  
(MIRA 17:1)

1. Leningradskiy tekhnologicheskij institut imeni Lensoвета.

GRIGOR'YEV, V.B.; SMIRNOV, N.I.

Separation of mixtures of organic liquids in a thermogravitation column. Zhur. prikl. khim. 36 no.12:2687-2691 D'63.

(MIRA 17:2)

1. Leningradskiy tekhnologicheskii institut imeni Lensoвета.

L 38580-65 EWT(m)/EPF(c)/EWP(j) Pe-4/Pr-4 JW/RM

ACCESSION NR: AP5011044

UR/0080/64/037/010/2204/2210

32

AUTHOR: Gudkov, A. N.; Fermor, N. A.; Smirnov, N. I.

31

B

TITLE: Vapor pressure of monomeric-polymeric systems

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 10, 1964, 2204-2210

TOPIC TAGS: vapor pressure, monomer, polymer, macromolecular chemistry

Abstract: Experimental data was obtained on the vapor pressure of monomers over monomeric-polymeric systems (SKI-1 rubber - isoprene, SKS-50 PG rubber - styrene, SKS-30 rubber - styrene, Nairit - chloroprene rubber SKN-26 rubber - acrylic acid nitrile, latex-based SKI - isoprene, SK -26 rubber + 8% metavic acid - acrylic acid nitrile are expressed by empirical formulas of two kinds, used to calculate monomer vapor pressure to satisfactory accuracy from the given monomer concentration in the monomeric-polymeric system and temperature. It was noted that for several of the systems studied, the reduced vapor pressure is independent of the temperature for the 30-70° range.

Orig. art. has 1 figure, 3 formulas, 2 graphs, and 5 tables.

Card 1/2

AP5011044  
ACCESSION NR: AP5011044

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet  
(Leningrad Technological Institute)

SUBMITTED: 06Oct63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 003

OTHER: 001

JPRS

Card 2/2

GUDKOV, A.M.; FECHOR, N.A.; SMIRNOV, N.I.

Vapor pressure of monomers over synthetic latexes. Zhur. prikl.  
khim. 37 no.11:2478-2482 N '64 (MIRA 1981)

1. Leningradskiy tekhnologicheskii institut imeni Lomonosova.

GUDKOV, A.N.; FERNER, H.A.; SHERNOV, H.I.

Phase equilibrium in certain aqueous monomer-polymer systems.  
Zhur. prikl. khim. 37 no.12:2640-2643 D '64.

(MIRA 18:3)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveta.



GUMENYUK, N.A.; SMIRNOV, N.I.

Use of G.K. D'iakonov's equation for the extraction from single drops. Zhur. prikl. khim. 38 no.4:890-895 Ap '65.

(MIRA 18:6)

1. Leningradskiy tekhnologicheskii institut imeni Lensoвета.

L 10782-66 EWT(m)/EWP(j) RM  
ACC NR: AP6000007

UR/0080/65/038/011/2592/2594

AUTHOR: Grigor'yev, V.B.; Grigor'yeva, L.A.; Reykhsfel'd, V.O.;  
Makovetskiy, K.L.; Smirnov, N.I.

ORG: Leningrad Institute of Technology im. Lensovet (Leningradskiy tekhnologicheskii institut)

TITLE: Separation of polymer homologous mixtures in a thermogravitation-  
al column

SOURCE: Zhurnal prikladnoy khimii, v.38, no.11, 1965, 2592-2594

TOPIC TAGS: silane, chemical separation, polymer

ABSTRACT: The article describes an attempt to apply a thermogravitation-  
al column to the separation of some complex mixtures which cannot be  
fractionated by other means, or only with great difficulty. In particu-  
lar, the column was applied to polymer homologous mixtures obtained by  
the addition of various unsaturated monomers to dimethylmethylhyropoly-  
siloxanes, and also to the products of the cocyclotrimerization of  
acetylenes--trisubstituted benzenes. The article gives a diagram of the  
construction of the thermogravitational column. The distance between  
plates was 0.3 mm, and the height of the working section of the column

Card 1/2

UDC: 541.6

L 10782-66

ACC NR: AP6000007

4

was 774 mm. The temperature difference between the walls of the column was 30° in the separation of products obtained by the addition of olefins to dimethylmethylhydropolysiloxanes, and 40° in the separation of mixtures of alkylarylbenzenes. Results of the experimental separations are shown in tables. These data indicate that separation in a thermogravimational column is well suited to separation of polymer homologous mixtures of large molecules which differ only slightly in their structure, and can also be recommended for the separation of very high boiling mixtures. Orig. art. has: 1 figure and 2 tables. 144,55

SUB CODE: 07/ SUBM DATE: 17Jan64/ ORIG REF: 003/ OTH REF: 008

PC

Card 2/2

GUMENYUK, N.A.; SMIRNOV, N.I.

Application of G.K. Diakonov's equation to the extraction from a  
drop group. Zhur. prikl. khim. 38 no.5:1058-1063 My '65.  
(MIRA 18:11)

1. Leningradskiy tekhnologicheskii institut imeni Lensoвета.

SMIRNOV, N.I.

Drilling 210mm diameter boreholes with IU-17 pneumatic hammers in  
Dzhezkazgan. Izv. AN Kazakh. SSR. Ser. gor. dela, met. i stroimat. no. 11:64-  
70 '56. (MIRA 10:1)  
(Dzhezkazgan--Boring machinery) (Pneumatic tools)

ALEKSEYEV, O.I., SMIRNOV, N.I.

Comparative evaluation of the effectiveness of impact-cable tool  
and impact rotary drilling in Dzhezkazgan open-pit mines. Izv.  
AN Kazakh. SSR. Ser. gor. dela, met. i stroimat. no. 11:71-78 '56.  
(MLRA 10:1)

(Dzhezkazgan--Boring machinery)

SMIRNOV, N. I., Cand Tech Sci -- (diss) "Comparative evaluation of the effectiveness of well drilling by percussive-cable machine tools and plunging hammers in the <sup>quarries</sup> ~~open-out mines~~ of Dzhezkazgan." Alma-Ata, 1957. 12 pp with nomographs (Min of Higher Education USSR, Kazakh Mining and Metallurgical Inst), 100 copies (KL, 52-57, 108)

- 73 -

SMIRNOV, N.I., gornyy inzhener.

Effective use of BU-2 and BMK-2 boring machines in the Dzhezkazgan open pits. Gor. zhut. no.2:31-32 P '57. (MIRA 10:4)

1. Institut gornogo dela AN KazSSR.  
(Boring machinery) (Dzhezkazgan--Stip mining)



SMIRNOV, N.I.

Air-combination drilling of boreholes in open-cut mines. Izv. AN  
Kazakh. SSR. Ser. gor. dela no.1:60-70 '58. (MIRA 16:5)

(Boring)

SMIRNOV, N.I.

Specific performance and mechanism of rock desintegration in  
percussive cable drilling. Trudy Inst. gor. dela AN Kazakh. SSR  
no.3:99-106 '58. (MIRA 11:6)

(Boring machinery)

SMIRNOV, N.I.

Hard rock drilling methods. Izv. AN Kazakh. SSR. Ser. gor.  
dela no.1:69-77 '59. (MIRA 12:9)  
(Rock drills)

SMIRNOV, N.I.

Parameters of the working face in trenching with a rock excavator. Izv. AN Kazakh. SSR. Ser. gor. dela no. 2:35-40 '59.  
(MIRA 13:4)

(Strip mining) (Excavating machinery)

DORONENKO, F.G.: SMIRNOV, N.I.

Efficient width of an EKG-8 mined working face. Izv.AN  
Kazakh.SSR. Ser.gor.dela no.2:41-49 '59. (MIRA 13:4)  
(Strip mining) (Excavating machinery)

SMIRNOV, N.I.

Evaluating the performance of 3 m<sup>3</sup> and 6 m<sup>3</sup> capacity 48-52 excavators at the Kounradskiy open-pit mines. Izv. AN Kazakh. SSR.  
Ser. gor dela no.1:48-52 '60. (MIRA 13:10)

(Karaganda Province --Strip mining)  
(Excavating machinery)

SKVORCHEVSKIY, N.D.; SMIRNOV, N.I.

Use of new machinery at the Kounradskiy open-pit mine. Trudy Inst.  
gor. dela AN Kazakh-SSR 4:59-69 '60. (MIRA 13:9)  
(Kounradskiy--Copper mines and mining)  
(Mining machinery)

SMIRNOV, N. I.

Some results of the performance of percussion-rope boring rigs  
and sinker hammers. Trudy Inst. gor. dela AN Kazakh. SSR 5:94-  
102 '60. (MIRA 13:8)

(Boring machinery)  
(Rock Drills)



SMIRONV, N.I.

Purification of diesel engine exhaust gases in open-cut mine  
workings. Trudy Inst. gor. dela AN Kazakh. SSR 6:146-154 '60.  
(MIRA 13:12)

(Gases—Purification)  
(Mining engineering—Safety measures)

MUSIN, A. Ch.; SMIRNOV, N.I.

Mining engineering in Kazakhstan. Trudy Inst. gor. dela  
AN Kazakh. SSR 7:5-19 '60. (MIRA 14:6)  
(Kazakhstan--Mining engineering)

SMIRNOV, N.I.; DORONENKO, F.G.

Operation of 6<sup>m</sup> excavators in open pit mines. Trudy Inst.  
gor. dela AN Kazakh. SSR 7:76-82 '60. (MIRA 14:6)  
(Strip mining) (Excavating machinery)

~~SECRET~~

Coefficient of overburden stripping in working complex ore  
deposits. Izv. AN Kazakh. SSR. Ser. gor. dela no.1:42-46 '61.  
(MIRA 15:2)  
(Strip mining)

ALEKSEYEV, O.I.; SMIRNOV, N.I.

Outlook for developing the open-pit method of mining iron ores in  
Kazakhstan. Trudy Inst.gor.dela AN KazakhSSR 8:15-25 '61.  
(MIRA 15:4)

(Kazakhstan---Iron mines and mining)

CHAYKO, N.P.; SMIRNOV, N.I.

Method of determining the mean commercial content of metal in  
ore. Trudy Inst.gor.dela AN Kazakh SSR 8:46-53 '61. (MIRA 15:4)

(Ores--Sampling and estimation)

L 46857-66 IJP(c) JAJ  
 ACC NR: AP6034674 SOURCE CODE: HU/0005/66/000/005/0219/0224  
 AUTHOR: Holderith, Jozsef--Kholderit, Y.; Szmirnov, Nyikolai Ivanovits--Smirnov, N. I.  
 ORG: [Holderith] Department of Chemical Technology, Eotvos Lorand University,  
Budapest (Eotvos Lorand Tudomanyegyetem, Kemiai Technologiai Tanszek); [Szmirnov]  
Lensoviet Technological College, Leningrad

31  
B

TITLE: Modelling of chemical reactors I

SOURCE: Magyar kemiai folyoirat, no. 5, 1966, 219-224

TOPIC TAGS: chemical reactor, transport theory, differential equation system

ABSTRACT: [Authors' Hungarian summary] Following a brief discussion of the fundamental principles of the transport theory, the applicability of the theory of similitude in the physical modelling of reactors for the chemical industry is examined. The system of similitude invariants is derived from the differential equation-system set up with averaged (that is: measurable) quantities which describe the transport processes occurring in turbulent flows. It is demonstrated that, in the case of a quasi-homogeneous model, in systems which involve boiling, complete similitude can not be achieved and the presence of a partial (approximating) similitude can, at best, be determined afterwards (that is: following the physical realization of the systems). Orig. art. has: 14 formulas. [JPRS: 36,862]

SUB CODE: 07, 12 / SUBM DATE: 09Sep65 / ORIG REF: 007 / SOV REF: 008

Card 1/1

SMIRNOV, N. I., ROSHCHANOVSKIY, B. V.

Tractors

Meliorating unit of the Northern Scientific Research Institute of  
Hydrotechnology and Melioration - a universal trailer for tractor  
S-80, Gidr. i mel. 4 no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress,  
June, 1952. UNCLASSIFIED.



ANTIYSHEV, P.I.; VASIL'YEV, V.M.; ZHARKOV, V.P.; LOZOVY, V.I.; POPOV, N.I.; PUZANOV, V.S.; PUZRYAKOV, V.A.; SMIRNOV, N.I.; SOLODENIKOV, V.N.; YUR'YEV, G.I.; KRYUKOV, V.L., red.; PEVZNER, V.I., tekhn.red.

[Agricultural machinery in the seven-year plan] Sel'skokhoziaistvennaia tekhnika v semiletke. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 94 p.

(MIRA 13:10)

(Agricultural machinery)

GUROV, I.N., dotsent, kand.tekhn.nauk, red.; SMIRNOV, N.I., dotsent, kand.  
tekhn.nauk, red.; SHATUNOVSKIY, G.M., dotsent, kand.tekhn.nauk, red.;  
SHTANKO, M.G., dotsent, red.; UVAROVA, A.F., tekhn.red.

[Design and manufacture of agricultural machinery; collected  
articles from the Second All-Union Scientific-technological  
Conference in Rostov-on-Don] Konstruirovaniye i proizvodstvo  
sel'skokhoziaistvennykh mashin; sbornik statei po materialam  
Vtoroi Vsesoiuznoi nauchno-tekhnicheskoi konferentsii, sostoia-  
sheisia v Rostove-na-Donu. Pod red. I.N.Gurova i dr. Moskva,  
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 326 p.  
(MIRA 12:11)

1. RISM (for Shatunovskiy).  
(Agricultural machinery)

SMIRNOV, N.I.; SMIRNOV, P.I.; SMIRNOV, S.I.; SHARAYEVA, K.M.

Automatic mixer. Kons.i ov.prom. 17 no.2:38-39 F '62.  
(MIRA 15:5)  
(Mixing machinery)

SMIRNOV, N.I.

Device for debarking short length paper wood.  
Bum.prom. 37 no.11:29 N '62. (MIRA 15:12)

1. Nachal'nik lesnoy birzhi Sovetskogo kombinata.  
(Woodworking machinery)

ACC NR: AM7003443

variety of readers, but mainly for naval personnel, and for the transport, river, and fishing fleets, as well as teachers and students at navigation schools.

TABLE OF CONTENT [abridged]:

Foreword -- 3

Section 1

Firefighting on naval and other ships

- Ch. 1. Shipboard fires, their peculiarities and means of extinguishing them -- 9
- Ch. 2. Extinguishing fires with water -- 21
- Ch. 3. Extinguishing fires with foam -- 39
- Ch. 4. Extinguishing fires with steam and gases -- 66
- Ch. 5. Firefighting equipment and means of protection -- 83
- Ch. 6. Peculiarities of firefighting on naval and other vessels -- 88

Card 2/3

SMIRNOV, N.K.

Cooking raw materials at the Vashkovtsy Alcohol Plant. Spirt.  
prom. 24 no. 4:24-25 '58. (MIRA 11:7)  
(Alcohol)

ZABRODSKIY, A.G.; SMIRNOV, N.K.; Primali uchastiye: RUDENKO, O.A.;  
FILIPENKO, I.S.; SEMENCHENKO, A.D.; KORCHEVSKIY, M.I.;  
TEMASHNYUK, D.S.; SHVARTS, S.P.; BRITSKAYA, Z.A.; RESHETOVA, L.N.;  
SHAKHOVA, V.A.; DANILENKO, P.L.

More about the effect of the amount of water and of its automatic  
proportioning in the boiling to pulp of raw materials. Trudy  
UkrNIISP no.5:13-20 '59. (MIRA 16:11)

1. Vashkovskiy zavod (for Rudenko, Filipenko, Semenchenko,  
Korchevskiy, Temashnyuk, Shvarts, Britskaya). 2. Chernovitskiy  
spirtovyy trest (for Reshetova, Shakhova). 3. Ukrainskiy  
nauchno-issledovatel'skiy institut spirtovoy i likero-vodochnoy  
promyshlennosti (for Danilenko).

AUTHOR: Smirnov, N.M. SOV-128-58-10-4/19

TITLE: The Casting of Steel Railroad Car Wheels in Graphite Dies  
(Otlivka stal'nykh vagonnykh koles v grafitovyye formy)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 10, pp 7 - 8 (USSR)

ABSTRACT: The author describes the method of casting steel railroad car wheels in graphite dies as is done by the firm Griffin Wheel Co. (USA). There are 2 diagrams and 1 American reference.

1. Steel--Casting    2. Wheels--Production    3. Graphite--Applications

Card 1/1



BASHMAKOV, V.A.; SMIRNOV, N.M., starshiy dorozhnyy master

Speed up the ~~elimination~~ of defects. Put' i put.khoz. 6  
no.5:18 '62. (MIRA 15:4)

1. Nachal'nik Murmanskoy distantzii Oktyabr'skoy dorogi (for  
Bashmakov).

(Railroads--Maintenance and repair)

SMIRNOV, N.M.

Machine for high-speed vortex cutting of screws. Mashinostroitel'  
no. 4:28 Ap '61. (MIRA 14:4)  
(Screw-cutting machines)

S/121/61/000/003/005/006  
D040/D112

AUTHOR: Smirnov, N.M.

TITLE: High-speed thread whirling method for thin long screws

PERIODICAL: Stanki i instrument, no.3, 1961, 36-38

TEST: The Leningradskiy liteyno-mekhanicheskii zavod (The Leningrad Foundry and Machine Plant) uses the thread whirling method for cutting a trapezoidal thread on thin steel screws of up to 1200 mm in length. The article gives a detailed description of the threading equipment and tool setting. The arrangement includes a common lathe follower rest (Fig.2,a) provided with a third spring-loaded support that is shown separately (Fig.2,b), blocks of different shapes, a spring-loaded rear center, and a templet for installing the cutters in the cutter head. The arrangement is seen in a photograph during operation. The spring (7, in Fig.2,b) is pulled up by a removable lever (A) and fixed with a washer (9), and released after threading. The spring-loaded rear center prevents distortion of screws due to overheating in the cutting process, and both it and the spring support provide for vibration damping. The tool setting templet is illustrated and

Card 1/3

ROYTENBURG, D.I.; SMIRNOV, N.M.

The AM-1 device for checking the amplitude of balance wheel  
oscillations in wrist watches. Priborostroenie no.5:22-23  
My '61. (MIRA 14:5)

(Clocks and watches—Escapements)  
(Pulse techniques (Electronics))

AUTHORS: Smirnov, N.M., Shpolyanskiy, V.A. 119-58-5-11/11

TITLE: An Electronic Device for the Amplitude Measuring of the Oscillations of a Balance and Sound Defectoscopy of Clockworks (Elektronnyy pribor dlya izmereniya amplitudy kolebaniy balanssa i zvukovoy defektoskopii chasov)

PERIODICAL: Priborostroyeniye, 1958, Nr 5, pp. 31-32 (USSR)

ABSTRACT: The newly developed device A D.-1 consists of:

- 1 microphone - transducer
- 1 microphone amplifier
- 1 detector
- 1 limiting amplifier
- 1 additional amplifier
- 1 indicator (Braun tube)
- 1 generator for the rotation of the electron beam with
- 1 multivibrator and with
- 1 amplifier
- 1 measuring multivibrator
- 1 relaxation multivibrator.

Card 1/2 The disturbing noises of the clock are recorded by the microphone

. An Electronic Device for the Amplitude Measuring of the  
Oscillations of a Balance and Sound Defectoscopy of  
Clockworks

119-58-5-11/11

and, after previous amplification, are led to two channels: the detector and the limiting amplifier. Inside the detector the impulse form, which differs according to different faults in the clock is recorded after the circular motion of the electron beam has been put into operation by way of the second channel by means of the limiting amplifier. From the oscillograms obtained the sources responsible for faults can be very well ascertained visually. If the absolute height of the amplitude is to be measured it is possible to switch over to the measuring multivibrator with connected amplifier. There are 4 figures.

AVAILABLE: Library of Congress

1. Laboratory equipment--Characteristics 2. Clocks--Inspection

Card 2/2

USCOMM-DC-55, 138

SMIRNOV, N

M

Mos., Lab. Atmospheric Optics, Inst. Geophysics, Dept. Physico-Math. Sci., Acad. Sci. Sci. -1947-.

"New Methods for Producing Aerosols,"

Dok. AN, 58, No. 7, 1947; "The Problem of Obtaining High Concentration of Aerosols," Kolloid. Zhur., 10, No. 6, 1948.

SMIRNOV, Nikolay Matveyevich; KOBRIN, B., redaktor; YAKOVLEVA, Ye.,  
tekhnicheskii redaktor

[Apple trees] Iablonia. [Moskva] Moskovskii rabochii, 1956. 151 p.  
(Apple) (MIRA 9:11)



ZAGORODNOV, A.M.; SMIRNOV, N.M.

Tectonic pattern of the Tom'-Yaya interfluvium based on the  
results of aeromagnetic survey. Trudy SNIIGGIMS no.17:85-92  
'61. (MIRA 15:9)

(Tomsk Province.. Geology, Structural)

SMIRNOV, N.M.

Additional detachable cutting-tool holders. Mashinostroitel'  
no.11:25 N '62. (MIRA 15:12)  
(Metal-cutting tools)

*Smirnov, N.M.*  
EXCERPTA MEDICA Sec 11 Vol. 11/8 O.R.L. Aug 58

1344. HAEMODYNAMIC CHANGES IN PATIENTS WITH CHRONIC TONSILLITIS  
CAUSED BY TONSILLECTOMY (Russian text) - Smirnov N. M. Niko-  
laev - VESTN. OTO-RINO-LARING. 1957, 6 (77-82) Graphs 2  
Observations on 163 patients revealed that during tonsillectomy 84% of the patients  
showed increased blood pressure, tachycardia and accelerated blood flow; 10% had  
hypotension, bradycardia and retarded blood flow. In the rest (6%) the haemodyna-  
mics showed no considerable changes. The nature and degree of haemodynamic  
shifts may depend on individual features of nervous activity, the state of the cardio-  
vascular system and the quality of anaesthesia during operation. In most cases  
the haemodynamic indices return to initial values on the 4th-6th day after tonsillectomy.  
(XI, 6, 18)

SMIRNOV, N.M.

Method of biological tamponade of the nose. Voen.med.zhur. no.12:58-59  
(MIRA 11:5)

D'57

(NOSE, surgery  
postop. tamponade, biol. method (Rus))

SMIRNOV, N. K., Cand Med Sci -- (diss) "Morphology of benign polyps of the stomach and the condition of mucous therein." Leningrad, 1958. 21 pp; (Ministry of Public Health USSR, Central Scientific Research X-ray Radiology Inst); number of copies not given; price not given; (KL, 21-60, 131)

SMIRNOV, N.M.

Nose tamponade by means of a biological antiseptic tampon following submucous resection of the nasal septum. Akt.vop.perel.krovi no.7: 152-156 '59. (MIRA 13:1)

1. Bol'nitsa v pamyat' 25 oktyabrya.  
(HEMOSTATICS) (NOSE--SURGERY)

SMIRNOV, N.M. (Leningrad 135, Basseynaya ul., d.29, kv. 9)

Intracarotid blood transfusion in severe neck surgery. Vop.onk. 5  
no.3:364-367 '59. (MIRA 12:12)

1. Iz oto-rino-laringologicheskogo otdeleniya (zav. - prof. N.A. Karpov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I. Serebrov).

(NECK, neoplasms,  
surg., intracarotid blood transfusion in shock (Rus))

(BLOOD TRANSFUSION  
intracarotid, in neck cancer surg. (Rus))

(ARTERIES, CAROTID,  
intracarotid blood transfusion in shock in neck cancer  
surg. (Rus))

SMIRNOV, N. M., Cand Med Sci (diss) -- "Changes in the rate of blood flow under the influence of tonsillectomy and extensive surgical intervention on the neck". Leningrad, 1960. 22 pp (Leningrad State Order of Lenin Inst for the Advanced Training of Physicians im S. M. Kirov, Hospital "In Memory of 25 October" (city of Leningrad)), 300 copies (KL, No 15, 1960, 140)



SMIRNOV, N.M.

State of the gastric mucosa in antral cancers of obscure patho-  
genesis. Vop.onk. 6 no.1:46-54 '60. (MIRA 13:10)  
(STOMACH—CANCER)

SMIRNOV, N.M.

Diagnosis and treatment of tumors of the nose and its accessory  
sinuses; survey of foreign periodical literature from 1957-1959.  
Zhur. ush., nos. i gorl. bol. 20 no. 3:75-82 My-Je '60.  
(MIRA 14:4)

(NOSE—TUMORS)

SMIRNOV, N.M.

New achievements in the diagnosis and treatment of tumors of the nose and its accessory sinuses. Part 3: Tumors of the accessory sinuses of the nose; survey of foreign literature for 1957-1959. Zhur. ush., nos. i gorl. bol. 20 no.4:67-73 J1-Ag '60. (MIRA 14:6)

(NOSE, ACCESSORY SINUSES OF—TUMORS)

SMIRNOV, N.M.

Changes in blood coagulation under the influence of certain surgical  
interventions on the upper respiratory tract. Vest. otorin. 22  
no.4:72-81 Je-Ag '60. (MIRA 13:12)  
(RESPIRATORY ORGANS—SURGERY) (BLOOD—COAGULATION)

SMIRNOV, N. M.

Primary cancer of the frontal sinus with remote metastases. Vop.  
onk. 7 no.6:51-55 '61. (MIRA 14:12)

1. Iz otorinolaringologicheskogo otd. (zav. - prof. N. A. Karpov)  
Instituta onkologii AMN SSSR (dir. - deystv. chl. AMN SSSR prof.  
A. I. Serebrov).

(FRONTAL SINUS--CANCER)

SMIRNOV, N.M.

New achievements in the treatment of polyposis of the nose; Vest.  
otorin. 23 no.1:98-100 Ja-F '61. (MIRA 14:2)  
(NOSE—TUMORS) (CYSTS)

SMIRNOV, N.M.

Angioma of the frontal sinus. Vop. onk. 8 no.12:68-69 '62.  
(MIRA 17:6)

1. Iz otorinolaringologicheskogo otdeleniya (zav. - prof. N.A. Karpov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I. Serebrev).

SMIRNOV, N.M., kand.med.nauk

Reflex changes in the rate of the blood flow, the pulse, and the arterial pressure in diseases of the upper respiratory tracts in the operating room before surgery. Zhur.,ush., nos. i gor.bol. 22.no.6:55-58 N-D'62. (MIRA 16:7)

1. Iz kafedry bolezney ukha, gorla i nosa (nachal'nik-prof.P.A. Zasosov[deceased]) Voenno-morskoy akademii.  
(RESPIRATORY ORGANS--SURGERY) (BLOOD--CIRCULATION)



SMIRNOV, N.M., kand. med. nauk

Apparatus for contrast roentgenography in patients with cancer  
of the larynx. Vest. rent. i rad. 37 no.5:76-77 S-0 '62

(MIRA 17:12)

1. Iz otorinolaringologicheskogo otdeleniya bol'nitsy "V pamyat'  
25 Oktyabrya", Leningrad (glavnyy vrach I.P. Yushmanov).

SMIRNOV, N.M., kand.med.nauk.

Cylindroma of maxillary sinus. Zhur. ush., nos.1 gorl. bol.23.  
no.3:78-79 My-Je '63. (MIRA 16:7)

1. Iz otolaringologicheskogo otdeleniya (zav.-prof. N.A.Karpov)  
Instituta onkologii AMN SSSR (dir. deystvitel'nyy chlen AN SSSR  
prof. A.I. Serebrov).  
(MAXILLARY SINUS—TUMORS)

SMIRNOV, N.M.; YUDKOVSEAYA, I.I.

State of the gastric mucosa in cancer of the fundal region.  
Vop. onk. 11 no.2:26-30 '65. (MIRA 18:7)

1. Iz patologcmorfologicheskoy laboratorii (zav. - doktor med.  
nauk S.F. Serov; nauchnyy rukovoditel' - deystvitel'nyy chlen  
AMN SSSR prof. M.F. Glazunov) Instituta onkologii AMN SSSR  
(direktor - deystvitel'nyy chlen AMN SSSR prof. A.I. Serebrov).

SMIRNOV, N.M., kand. med. nauk

Selection of a method and the characteristics of anesthesia in  
oncological practice. Klin. khir. no.3:18-22 '65.

(MIRA 18:8)

1. Rentgeno-radio-khirurgicheskiy otdel (zav. - zasluzhennyy  
deyatel' nauki, prof. I.T.Shevchenko) Kiyevskogo rentgeno-  
radiologicheskogo i onkologicheskogo instituta.

SMIRNOV, N.M.

Histotopographic analysis of the mucous membrane of the pyloric  
antrum and the body of the stomach in proliferating and malignant  
polyps. Vop. onk. 11 no. 7: 34-37 '65. (MIRA 18:9)

1. Iz patologomorfologicheskoy laboratorii (zav. laboratoriyey -  
doktor med. nauk S.F. Serev, nauchnyy konsul'tant - deystvitel'nyy  
chlen AMN SSSR prof. M.F. Glazunov) Instituta onkologii AMN SSSR  
(dir. - deystvitel'nyy chlen AMN SSSR prof. A.I. Serebrov).

SMIRNOV, N. M.

USSR/Medicine - Blood, Circulation  
Medicine - Pediatrics  
May/Jun 49

"Research on the Circulation Rate of Children Injected With 'Cytitone'," N. M. Smirnov, 1 3/4 pp

"Pediatrya" No 3

Results prove cytitone harmless and very useful in compiling data on changes in circulation rate of blood. This comparatively simple technique eliminates use of a pneumogram. Results obtained with cytitone differ from those obtained with lobeline. Cases with endomyocarditis without decompensation indicate tendency toward a lower circulation rate. An abrupt decrease in the rate is noted in cases

50/49T72

USSR/Medicine - Blood, Circulation  
(Contd)  
May/Jun 49

with decompensation. It is necessary to check circulation rate of cases with croupous pneumonias every 4 or 5 days because some develop a decreased circulation rate following crisis.

50/49T72

SMIRNOV, N. M.

SMIRNOV, N. M. -- "Cardiovascular Changes During Pneumonia in Children."  
Sub 6 Oct 52, First Moscow Order of Lenin Medical Inst. (Dissertation  
for the Degree of Candidate in Medical Sciences.)

SO: Vechernaya Moskva January-December 1952

SMIRNOV, N.M.

Modifications of the cardiovascular system in pneumonias in children.  
(MLRA 7:12)  
Pediatriia no.5:53-58 S-O '54.

1. Iz kliniki detskikh bolezney (dir. chlen-korrespondent Akademii  
meditsinskikh nauk SSSR prof. Yu.F.Dombrovskaya) i Moskovskogo  
ordena Lenina meditsinskogo instituta.

(PNEUMONIA, in infant and child,  
cardiovasc. changes in)

(CARDIOVASCULAR SYSTEM, in various diseases,  
pneumonia in child.)



SMIRNOV, H.

Meeting of the Departments of Children's Diseases of the Vitebsk  
and the First Moscow Medical Institute on the fortieth anniver-  
sary of the White Russian Soviet Socialist Republic. Zdrav.  
Belor. 5 no.6:75-76 Je '59. (MIRA 12:9)  
(CHILDREN--DISEASES)

SMIRNOV, N.M.

Diagnostic significance of gastric leukopenia in older children  
in chronic gastrointestinal diseases. Zdrav. Belor. 6 no.9:15-18  
(MIRA 13:9)  
S '60.

1. Kafedra detskikh bolezney (zaveduyushchiy - dotsent N.M.Smirnov)  
Vitebskogo meditsinskogo instituta.  
(STOMACH—DISEASES) (LEUCOCYTES)

SMIRNOV, N.M., dotsent.

Diagnosis of chronic gastritis in children. *Pediatrica* no.8:21-25  
'62. (MIRA 15:10)

1. Iz kafedry pediatrii Vitebskogo meditsinskogo instituta.  
(STOMACH--INFLAMMATION)

SOV/124-58-3-2636

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 14 (USSR)

AUTHOR: Smirnov, N. N.

TITLE: Theoretical Basis for the Design and Calculation of Toothed-cam Safety Catches for Colliery Cages (Teoreticheskoye obosnovaniye proyektirovaniya i rascheta klet'yevykh kulachkovykh parashyutov)

PERIODICAL: Zap. Leningr. gorn. in-ta, 1957, Vol 34, Nr 1, pp 80-102

ABSTRACT: Considering the toothed-cam safety catch as a system consisting of a grip and brake mechanism and a driving-gear mechanism, the author determines certain relationships between the kinematic, force, and geometric parameters of the system which are required for the design of a dependably working toothed-cam construction for colliery safety catches.

G. N. Savin

Card 1/1

FILIPPOV, L.I.; SMIRNOV, N.N.

Choice of an optimum number of amplifier cascades for minimum phase instability. Nauch. dokl. vys. shkoly; radiotekh. i elektron. no.2: 243-249 '59. (MIRA 14:5)

1. Taganrogskiy radiotekhnicheskiy institut.  
(Amplifiers (Electronics))

89134

S/108/61/016/002/007/011  
B107/B212

9,2510  
13,2300

AUTHORS:

Smirnov, N. N., Filippov, L. I., Members of the Society of  
Radio Engineering and Electric Communication

TITLE:

An extreme value problem in the theory of amplification  
circuits

PERIODICAL:

Radiotekhnika, v. 16, no. 2, 1961, 46-50

TEXT: The paper describes an investigation of the problem of an optimum number of stages in an n-stage amplifier with a given total amplification  $K_{ges}$  and a high phase shift stability. The solution would be of interest for various phase measuring and navigation systems where the wanted information is obtained by measuring the phase difference. A multi-stage band-pass amplifier with uniform stages has been studied. Each stage has a two-circuit filter with equal parameters. The total amplification is:  $K_{ges} = (Sqk/(d^2 + k^2))^n$ , where S is the mutual conductance of the pentode characteristic,  $q$  the resistivity of the circuit,  $k$  the coupling factor

Card 1/4

89134

An extreme value problem ...

S/108/61/016/002/007/011  
B107/B212

(8) cannot be used since the Q factor has to be infinite; (9) is transcendental and cannot be solved for n directly. A graphical solution is possible if values for  $K_{ges}$  and  $c$  are assumed, but then it is not possible to determine n as a function of the amplifier parameters. An approximate solution would be possible by a Taylor series expansion near an assumed rational value for n. But this method is so complicated that another one has to be found. Eq. (6) can be changed to

$$y = x \sqrt{x \sqrt{10} (c - \sqrt{x \sqrt{10}})},$$

where  $y = \Delta\varphi / (b \log K_{ges})$  and  $x = n / \log K_{ges}$ . The curves  $y = f(x)$  have been calculated for various values of c and are illustrated. An analysis of these curves shows the following:  $\Delta\varphi$  has a maximum and minimum, the maximum is very distinct for large values of c. A minimum phase stability is found for an optimum coupling ( $A = 0.75 - 1$ ). Curves can be plotted which correspond to various coupling factors of A:

$$y = \frac{1}{A} x \sqrt{x \sqrt{10}}.$$

The following hints can be given: In order to increase the phase stability,

Card 3/4

LIVSHITS, Boris Samoylovich; POLYAK, Petr Yul'yevich. Primal  
uchastiye SMIRNOV, N.N.; GOLUBTSOV, I.Ye., otv. red.;  
KOMAROVA, Ye.V., red.; TRISHINA, L.A., tekhn. red.

[Rural telephone communication system] Sistema sel'skoi  
telefonnoi svyazi. Moskva, Svyaz'izdat, 1963. 127 p.  
(MIRA 17:1)

(Telephone)



SMIRNOV, N. V.

Abdomen - Surgery

Postoperative dehiscence in abdominal surgery, Khirurgiia no. 7, 1952.

Monthly List of Russian Accessions. Library of Congress. December 1952. UNCLASSIFIED

SMIRNOV, N. N.

Intestines - Ulcers

Penetration of peptic ulcer of the small intestine into the anterior abdominal wall. Vest.  
khir., 72, No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

SMIRNOV, N.N.

~~Delineation of relief on general agricultural maps. Trudy VGU 42~~  
no.4:69-70 '55. (MIRA 11:6)

(Agriculture—Maps)

YEZHOV, I.N.; SMIRNOV, N.N.

"Physicogeographical mapping" by A.G. Isachenko. Reviewed by  
I.N. Ezhov, N.N. Smirnov. Vest. Mosk. un. Ser. 5: Geog. 15  
no. 5:78-79 S-O '60. (MIRA 13:11)  
(Physical geography--Maps)  
(Isachenko, A.G.)

S/

BOOK EXPLOITATION

AM:037983

Smirnov, Nikolay Nikolayevich

Operating technology of aircraft structures (Ekspluatatsionnaya tekhnologichnost' samoletnykh konstruktsiy), Moscow, Oborongiz, 1963, 123 p. illus., biblio. Errata slip inserted. 3,000 copies printed.

TOPIC TAGS: aircraft structure, aircraft maintenance, aircraft servicing, ground support equipment, Tu-104, An-10, Il-18

PURPOSE AND COVERAGE: Serviceability is an important indicator of the aircraft structures which has an influence on the reliability, service life of the aircraft, labor productivity in its servicing, service expenditures, and the efficiency of using a fleet of aircraft. Problems of the serviceability have not been covered well in the literature. This is the reason for this book. The author, not pre-tending to cover the material fully, tried to generalize and analyze the most important factors determining the serviceability. The book gives an evaluation of the design-production solutions of some components and systems of aircraft and there is an indication of the means for improving the serviceability of aircraft structures. In the concluding section of the book there is a system of indicators for evaluation of aircraft serviceability. The book is intended for engineers and

Card 1/2

AM:037983

technicians working in design, production, and maintenance of passenger aircraft and it will be useful to students in aviation higher technical educational institutions.

TABLE OF CONTENTS [abridged]:

Foreword -- 3

Ch. I. Use of an aircraft, its maintenance and repair -- 5

Ch. II. Aircraft serviceability -- 23

Ch. III. Serviceability of a structure and means of improving it -- 67

Ch. IV. Improving the serviceability of structures -- 108

Bibliography -- 123

SUB CODE: AC, AS

SUBMITTED: 24Sep63

NR REF SOV: 017

OTHER: 032

DATE ACQ: 07May64

Card 2/2

Dokl.Akad.Nauk, 110, fasc.2, 212-215 (1956) CARD 2 / 2 PA - 1549

are thus  $h_d \sim 2\pi(2s)$  and  $h_d \sim 2\pi(2s + 1)$ . In the case of a synphase spatial excitation only harmonics with an even azimuthal index ( $n = 2s$ ) and in the case of antiphase excitation only such with an odd index ( $n = 2s + 1$ ) are obtained. The numerically computed dispersion characteristics are given. Near the boundary of the mixed zone the resonance term loses its definite value and there the sum of the transversal terms is then decisive. To every spatial resonance there corresponds a "forbidden stripe", in which only fast waves can occur. In the case of an m-pitch spiral the resonances are arranged m times more rarely than in a one-pitch spiral. If m is further increased only the zero-th resonance is practically left over in the case of a synphase excitation.

INSTITUTION:

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651530004-6" CARD 1 / 2

SUBJECT USSR / PHYSICS  
AUTHOR SMIRNOV, N.N.  
TITLE The Propagation of Waves along an Infinitely Long Spiral.  
PERIODICAL Dokl.Akad.Nauk, 108, fasc. 2, 243-246 (1956)  
Issued: 7 / 1956 reviewed: 10 / 1956

At first the dispersion equation for waves in a spiral, which was set up by S.CH.KOGAN (Dokl.Akad.Nauk, 66, 867 (1949)), is given; its numerical solution requires the summation of the series occurring on its right side, which therefore makes it rather complicated. However, not all terms of this series have the same weight. The most important term in the series is that with a finite (or small) argument, because terms with large argument are small. The size of the argument in the case of an assumed average radius  $r_0$  of the spiral is determined by the equation  $\gamma_n = \sqrt{h_n^2 - k^2}$ .  $\gamma$  is small if  $h_n \sim 2\pi n/d$ , i.e. if

a whole number of waves corresponds to one space ( $d$  - spacing of the spiral). Such a term may be described as "resonance term", and in this case it is a particular kind of "spatial" resonance.

Next, the expressions for the zero-th and the n-th resonance are given. Furthermore, the dispersion equation for a spiral consisting of a thin band with a breadth of  $2B$  is given. Sorting out of resonance terms is described by V.J.FOWLER, Trans.I.R.E.No 4, A.P. 3, 132 (1954). According to the author's opinion this work contains an error committed when computing the vector potential, which leads to a wrong dispersion equation. The dispersion equation is

SOV / 57-28-7-22/35

AUTHOR: Smirnov, N. N.

TITLE: Propagation of Electromagnetic Waves in Circular Waveguides  
With Periodic Slits (Rasprostraneniye elektromagnitnykh voln  
v kruglykh volnovodakh s periodicheskimi shchelyami)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol. 28, Nr 7, pp.1494-1504  
(USSR)

ABSTRACT: The propagation of electric and magnetic waves in a circular wave guide with a spiral slit, and in a circular wave guide with periodic annular slits is investigated. First the attenuation and the phase velocity of electromagnetic waves in a circular wave guide with periodic annular slits is investigated. The analysis of an ideal infinite conducting circular wave guide with periodic annular slits is carried out by means of approximate boundary conditions. However, to be able to take into account the influence of the slits more accurate boundary conditions must be set up. The precisation of the one boundary condition (viz.: the component of the electric field along the direction of the line must be equal

Card 1/4

SOV/ 57-29-7-22/35  
Propagation of Electromagnetic Waves in Circular Waveguides With Periodic Slits

third chapter the dispersion equation for asymmetrical waves in a circular wave guide with periodic annular slits and in a circular wave guide with a spiral slit are investigated. These can be solved by approximation, which, however, makes necessary a great amount of calculations. Therefore the author gives only some remarks on these formulae. From the electrodynamic point of view the wave guides with periodic annular slits and those with spiral slits are almost equal to each other. L. A. Vaynshteyn had the scientific supervision. Ya.N. Fel'd discussed the work with the author. Here

$\kappa = ka \cos \vartheta$  and  $k = \omega/c$ ,  $\vartheta$  being the winding angle of the band. There are 10 figures and 7 references, 6 of which are Soviet.

SUBMITTED: October 20, 1956

Card 3/4



Propagation of Electromagnetic Waves in Circular  
Waveguides With Periodic Slits

SOV/57-28-7-22/35

1. Electromagnetic waves--Propagation
2. Wave guides--Applications

Card 4/;

L 47758-65 EWT(d)/EWT(m)/FA/FA(b)/T-2/EWP(h)/EWA(w)

ACCESSION NR: AP5013223

UR/0375/65/000/005/0077/0081

20  
B

AUTHOR: Panfilov, A. N. (Lieutenant Colonel); Smirnov, N. N. (Engineer, Lieutenant Colonel); Titov, P. A. (Engineer, Major); Torovinov, I. M. (Lieutenant Colonel)

TITLE: Peculiarities of helicopter flights from ships

SOURCE: Morskoy sbornik, <sup>48</sup>no. 5, 1965, 77-81

TOPIC TAGS: aerodynamic lift, helicopter rotor, helicopter pad, naval installation, Ka-15 helicopter, Mi-4 helicopter, helicopter

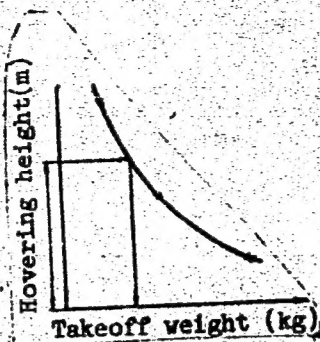
ABSTRACT: Helicopters which operate from shipborne heliports, of a certain size and raised appreciably above the water, behave differently than when they fly over land. This article discusses the problems thus created by referring to experience gained in combat training involving the Ka-15 helicopter, which has a takeoff weight of 1360 kg.

It must always be kept in mind that the helicopter under discussion takes off or lands on a platform of limited size which is considerably elevated above the water's surface and that the underhelical area could be displaced from the platform's center while landing. Experience has shown that the effect of the air cushion is limited to a height not exceeding the diameter of the supporting rotor. 1/6

Card

47758-65  
ACCESSION NR: AP5013223

Fig. 1. Maximum payload while hovering.



Depending on the type of ship, the elevation of the helicopter platform above the water's surface is between 3 and 10 m. The spreading of the rotor's air stream during landing and sometimes during takeoff does not take place in the same plane.

Card 2/6

L 47758-65  
ACCESSION NR: AP5013223

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Generally, the thrust developed by a helicopter's rotor just above a platform is less than it would be over the ground under similar conditions. For instance, it would be nearly 2.5% less for a helicopter which is 2 to 4 m above a platform located 10 m above the water's surface and having an area three times greater than the rotor disk area. Therefore, the maximum weight of a helicopter taking off from a ship's platform must be less than the maximum weight would be for a helicopter taking off on land.

It has also been proved in combat training that the thrust of helicopters of the same type varies up to 6—7% under similar atmospheric conditions. This amounts to 80—90 kg for the Ka-15 helicopter and 400—500 kg for the Mi-4 helicopter. This variation is attributed chiefly to the quality of the rotor blades, the blades' actual condition, the accuracy with which the supporting system is tuned, and the engine's output, which varies during its lifetime. The above makes it necessary to determine each helicopter's exact maximum payload over land and its maximum hovering height with any given payload. It is recommended that three

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